

REMARKS

Claims 51-56 have been added. Claims 1-3, 6, 8, 11-13, 20, 22, 23, 26, 27, 30, 31, 36, 37, 45 and 48-56 remain in the application. Reconsideration of the application in view of the amendments and the remarks to follow is requested.

The Examiner states (p. 2) that "The amendment filed 10/15/01 is objected to under 35 U.S.C. §132 because it introduces new matter into the disclosure." The Examiner is mistaken on multiple grounds, as is explained below in more detail.

Applicants have amended the specification in response to the Examiner's apparent confusion regarding what the term "laser" means. More specifically, the Examiner has repeatedly expressed the bizarre opinion that a Xenon flashlamp is arbitrarily interchangeable with a laser. Such is not the case, for a number of reasons.

First, the Examiner takes this position despite the simple fact that the very reference that the Examiner relies upon to supply a Xenon flashlamp (Trabucco) clearly teaches (see, e.g., col. 2, lines 20-22; col. 3, line 58 through col. 4, line 2 and col. 4, lines 5-8) that a Xenon flashlamp is not a laser and thus presents properties more suitable for the use taught by that reference than a laser! Why would Trabucco teach that these light sources were different, with one being suitable for a given application and the other not being suitable for such application, if these were in fact arbitrarily interchangeable? The position taken by the Examiner simply defies logical

analysis or rationality. Clarification of the Examiner's position on this issue is respectfully requested.

Second, and to attempt to assist the Examiner with these concepts, Applicants pointed out in the last Response (pp. 13 and 14) that the term "laser" is an acronym. In other words, the term "laser" is taken from initial letters of a group of words that describe what a "laser" does, and from which certain properties of the light from a "laser" must have.

The term "laser" is an acronym (p. 656, Merriam Webster's Collegiate Dictionary, 10TH Ed. (Merriam-Webster, Springfield MA, principal copyright 1993) for "Light Amplification by Stimulated Emission of Radiation". The letters that are combined from this statement of laser operation have been bolded, capitalized and underlined to exemplify the relationship between an acronym and the antecedent phrase from which it is formed. Put another way, by DELETING letters between the bolded, underlined and capitalized letters in this phrase, one is left with the acronym itself, viz., "LASER".

As a result, the term "laser" by definition means "a device that utilizes the natural oscillations of atoms or molecules between energy levels for generating coherent electromagnetic radiation". A Xenon flashlamp does not provide coherent electromagnetic radiation and thus is not a laser. To obviate confusion, the specification has been amended to include a dictionary definition of the term "laser" as it is used in the relevant arts.

Third, the Examiner's "broad reading" gives the term "laser" a meaning repugnant to the normal meaning of the term as it is employed by those of ordinary skill in the relevant arts. It is inappropriate to give a term a meaning

repugnant to the normal meaning of the term. This is explained in detail in MPEP §608.01(o), entitled "Basis for Claim Terminology in Description".

This MPEP section states that "The meaning of every term used in any of the claims should be apparent from the descriptive portion of the specification with clear disclosure as to its import; and in mechanical cases, it should be identified in the descriptive portion of the specification by reference to the drawing, designating the part or parts therein to which the term applies. A term used in the claims may be given a special meaning in the description. No term may be given a meaning repugnant to the usual meaning of the term."

Applicants are providing excerpts from "Quantum Electronics, Second Edition" by Amnon Yariv (John Wiley and Sons, Inc., New York, copyright 1967, 1975) and "Quantum Physics of Atoms, Molecules, Solids, Nuclei, and Particles" by R. Eisberg and R. Resnick (John Wiley and Sons, Inc., New York, copyright 1967, 1975). Note that p. 316 of Eisberg and Resnick provides clear definition of a laser as "a device to produce extremely bright beams of coherent light" (this is near the bottom of the page). Page 426 gives a definition of the term "laser" and discusses three transition processes in gasses that give rise to interactions involving light, viz., spontaneous emission (as in the Xenon flashlamp), stimulated absorption, and stimulated emission (as in the "laser"). Page 429, near the bottom, clarifies these ideas. Page 431 provides general discussion of these characteristics of lasers and the fields of application that are opened by *these distinguishing characteristics* of lasers.

Page 175 of Yariv again discusses the acronym "laser". Pages 176-177 show how lasers work (see, e.g., Fig. 9.1). The text through page 194 is included together with the Response to further illustrate laser principles of operation and to distinguish them from other kinds of light sources.

The Examiner's "broad reading" of the term "laser" clearly gives the term "laser" a meaning repugnant to the ordinary meaning of the term. Objective evidence for this is found, inter alia, (i) in the dictionary definition provided by Applicant's, (ii) in the nature of the term "laser" as an acronym, (iii) in the reference applied by the Examiner and (iv) in the textbook explanations of what "lasers" are and how they work that are provided for the Examiner's edification together with this response.

Fourth, and additionally, the amendment to the specification is well within the ambit of what is permitted, as is evidenced by the above taken together with the provisions of MPEP §2163.07, entitled "Amendments to Application Which Are Supported in the Original Description". This MPEP section includes definitions of what is and what is not new matter.

More specifically, this MPEP section states that "Amendments to an application which are supported in the original description are NOT new matter." In subsection I, entitled "REPHRASING", this MPEP section states that "Mere rephrasing of a passage does not constitute new matter. Accordingly, a rewording of a passage where the same meaning remains intact is permissible. *In re Anderson*, 471 F.2d 1237, 176 USPQ 331 (CCPA 1973). The mere inclusion of dictionary or art recognized definitions known at the time of filing an application would not be considered new matter. If there

are multiple definitions for a term and a definition is added to the application, it must be clear from the application as filed that applicant intended a particular definition, in order to avoid an issue of new matter and/or lack of written description."

Note that the dictionary definition earlier tendered predates the filing date of the application, and that the textbook explanations provided by Applicants together with this Response predate the filing date of the application by some twenty years or more. Accordingly, the amendment to the specification to include a definition of the term "laser" is NOT new matter, is supported by the very term "laser" and clearly shows that the recited invention is NOT rendered unpatentable by a reference that ITSELF teaches that a Xenon flashlamp not only is not a laser, but is preferable to a laser, by explicitly teaching away from use of a laser.

Fifth, the term "laser" is used in the specification as originally filed at least at p. 8, lines 1-3, 5 etc., is clearly shown with reference to at least Fig. 5 and is present at least in claim 2. Accordingly, the statement (Office Action, p. 2) that "The *more specific* definition of each of these terms ***is not*** supported by the applicants' original specification, ***is not*** supported by the original claims, and ***is not*** shown in the drawings" is wrong on all three counts with respect to use of and meaning of the term "laser".

Sixth, Applicants note that the Examiner states (p. 4) that "The claimed feature of a "laser" can be broadly read as the highly focused Xenon light 32 beam used to bond the balls [sic] solder to the substrate." There is no inherent aspect of a Xenon lamp that gives rise to a focused beam. A xenon

light source simply uses an electrical discharge through a volume of Xenon gas to generate light that emerges in every direction. Adding reflectors, such as a parabolic reflector, and, optionally, placing the electrical discharge at the focus of the parabola, and/or one or more lenses in front of the bulb or within the opening of the reflector to focus the light, gives rise to a focused beam.

There is nothing about such lamps, in and of themselves, that gives rise to a focused light beam output. Trabucco also makes this point, stating (col. 3, line 56 et seq.) that a converging lens assembly is required in order to focus the light beam.

Sixth, just how "broadly" would the Examiner care to read the term "laser"? Does the Examiner take this term to include light focused by lenses and originating from such diverse light sources as ordinary incandescent bulbs, thermonuclear light sources such as the Sun or forest fires? Lightning bugs? Just exactly where does the Examiner propose to set this new, unprecedented boundary on the definition of a term that has been in use in the English language for so many years? "Broadly reading" a term to mean what it plainly and simply does not mean creates a situation where the definition of the term itself is indefinite. Such defeats the very purpose of 35 U.S.C. §112, 2ND ¶, is misdescriptive and is misleading to the public.

Accordingly, the position taken by the Examiner with respect to the amendment to the specification to provide clarity with respect to the term "laser" is in error for at least these six reasons. In the event that the Examiner persists with the objection to the specification, the Examiner should

traverse each of these six reasons, and should provide relevant authority for the position taken by the Examiner with respect to each of these six reasons.

The Examiner's interpretation of the term "dip" substitutes a connotation or definition that simply is not supported by the context in which Applicants have employed the term. It is for this reason that Applicants have included an explicit definition, published well before Applicant's filing date, and in conformance with established patent prosecution procedure. Applicants have provided authority in the form of MPEP cites outlining permitted practice. The Examiner has simply ignored such patent examination procedures without giving any relevant reason for doing so. If the Examiner persists in interpreting "dipping" to mean "tilting", Applicants point out that it is incomprehensible as to how one would manage the act of "tilting the substrate into a volume of the balls of solder". Tilting is an act involving a single object or thing. Immersion is an act involving moving one thing relative to another, such as immersing a substrate (first object or thing) into a volume of balls of solder (second object or thing).

Accordingly, the meaning that the Examiner is imputing to the terms "dip" or "dipping" are improper for the legal reasons noted above with respect to the misinterpretation of the term "laser" and the factual reasons outlined above.

Claims 13 and 31 stand rejected under 35 U.S.C. §102(e) as being anticipated by Lapastora, U.S. Patent No. 5,782,399. Claims 1-3, 6, 8, 11, 13, 20, 22, 23, 26, 27, 30, 31, 36, 37, 45 and 48-50 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Trabucco, U.S.

Patent No. 5,899,737, the publication to Kasulke et al. and Lapastora, U.S. Patent No. 5,782,399. Applicants traverse and request reconsideration.

The anticipation rejections are in error for at least the following four reasons.

First, the §102 rejection of claims 13 and 31 is believed to be in error, because the PTO and Federal Circuit provide that §102 anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). The corollary of this rule is that the absence from a cited §102 reference of any claimed element negates the anticipation. *Kloster Speedsteel AB, et al. v. Crucible, Inc., et al.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986).

Applicants note the requirements of MPEP §2131, which states that "TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM." This MPEP section further states that "'A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)."

The amendment to the specification is intended to clarify the meaning of the term "dip" as used herein, in light of confusion that the Examiner has expressed. No new matter is added by the amendment to the specification.

To clarify this further, Applicants point out that definitions of what is and what is not new matter are provided in the Manual of Patent Examination Procedure at §2163.07, entitled "Amendments to Application Which Are Supported in the Original Description", stating that "The mere inclusion of dictionary or art recognized definitions known at the time of filing an application would not be considered new matter. If there are multiple definitions for a term and a definition is added to the application, it must be clear from the application as filed that applicant intended a particular definition, in order to avoid an issue of new matter and/or lack of written description."

Additionally, a copy of p. 613 of Merriam Webster's Collegiate Dictionary, 10TH Ed. (Merriam Webster, Springfield MA, principal copyright 1993) was included with the last Response to clarify the meaning of the term "into" as it is ordinarily used in the English language. From these definitions, the Examiner should be able to see that no matter how "broadly" one reads the language of claims 13 and 31 or Lapastora, Lapastora provides no teaching of "dipping the substrate into a volume of the balls of solder", as recited in claims 13 and 31.

Second, and further, Applicants note the requirements of MPEP §706.02. In a subsection entitled "DISTINCTION BETWEEN 35 U.S.C. 102 AND 103", this MPEP section states that: "The distinction between rejections

based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present." In other words, it is inappropriate to modify the teachings of a reference in an effort to find anticipation.

Lapastora teaches (col. 6, line 66 et seq.) that "the contact locating fixture 70 is tilted at various angles to allow the contacts 32 to roll (or slide if they are non-spherical) on the top surface of the contact loading plate 72 until they fill each opening 76." Lapastora is silent with respect to balls of solder, in contrast to the allegations in the Office Action, and thus fails to provide the invention as recited in any of Applicant's claims. Lapastora teaches use of solder paste 36 between the contacts 24 and the contacts 32 or 34 (see col. 3, line 48 et seq.).

Third, anticipation requires that the reference enable the claimed invention. This is discussed in more detail in MPEP §2121.01, entitled "Use of Prior Art in Rejections Where Operability Is In Question". This MPEP section states that "In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema*, 399 F.2d 269, 158 USPQ 596 (CCPA 1968). A reference contains an "enabling disclosure" if the public was in possession of the claimed invention before the date of invention."

Because Lapastora fails to teach "dipping the substrate into a volume of the balls of solder" as recited in claims 13 and 31, Lapastora cannot possibly enable the invention as recited in these claims.

Fourth, Applicants note that in order to provide a valid finding of anticipation, several conditions must be simultaneously met. These include: (i) the invention as recited in the claim must be identically disclosed within the four corners of the reference (see MPEP §2121), (ii) the reference must enable the invention as recited in the claim (see MPEP §2121.01) and (iii) the teachings of reference may not be modified to conform to the invention as recited in the claim (see MPEP §706.02, stating that "No question of obviousness is present" in conjunction with anticipation). Put another way, 35 U.S.C. §102 deals evidentiary rules for determining what is identically disclosed and enabled (see also MPEP §2121.01) in the public domain. Since Lapastora does not meet any one of these conditions individually, Lapastora cannot possibly meet these conditions collectively. For at least these reasons, the anticipation rejections are defective and should be withdrawn, and claims 13 and 31 should be allowed.

The Examiner states (pp. 4 and 5) that "The claimed feature of a "laser" can be broadly read as the highly focused Xenon light 32 beam used to bond the balls solder [sic] to the substrate." The Examiner is mistaken on multiple grounds.

First, the position that claims 2, 8, 22, 23, 26, 36, 37, 39 and 49 are unpatentable because of the erroneous belief that a Xenon flashlamp may be arbitrarily substituted for a laser is also in error for at least the six reasons given above with respect to the objection to the amendment to the specification relevant to the definition of "laser", in addition to other reasons which will be enumerated below.

Second, the Examiner states (pp. 4-5) that "Also, Trabucco teaches an alternative to using the Xenon light for bonding would be the use of a laser." Not only does Trabucco not teach the desirability of using a laser, Trabucco teaches away from use of a laser beam for melting solder balls. Trabucco explicitly states that a beam of light from a xenon lamp is a preferred light source (see col. 2, lines 20-22; col. 3, line 58 through col. 4, line 2). Trabucco also explicitly states (col. 4, lines 5-8) that "As an alternative, a laser beam could be used, but suffers the disadvantage of being much more difficult to control, and being more likely to thermally shock the contact pad."

Trabucco explicitly teaches that lasers are disadvantageous and therefore should not be used. Trabucco also explicitly teaches that use of xenon flashlamps avoids the enumerated deficiencies that Trabucco finds to be associated with lasers.

Trabucco teaches away from the invention as recited in any of claims 2, 6, 8, 20, 22, 23, 26, 30, 36, 37, 49 and 50, all of which explicitly recite laser bonding of the solder balls.

The Examiner states (p. 5) that "Lapastora teaches an aligning process in which a substrate 20 has a frame (contact loading plate 72) with holes (openings 86) and the substrate or frame both are then tilted or *dipped* (see Figure 7-9) to accurately position the balls of solder relative to the substrate for subsequent bonding." The Examiner is mistaken.

Lapastora does not teach using balls of solder. In fact, the words "solder ball", "balls of solder" or any equivalent thereto do not appear

anywhere in Lapastora. Lapastora is silent as to what the spherical 32 contacts might be formed from.

Additionally, Lapastora teaches a method of soldering contacts to a substrate in the presence of solder paste 36 containing flux. More specifically, Lapastora teaches (col. 3, lines 64-67; col. 5, lines 33-35 and line 66 through col. 6, line 3; col. 6, lines 39-42) placement of solder paste 36 on each contact pad on the substrate 20.

Lapastora then teaches (col. 6, lines 59-61) pouring the contacts 32 on top of the contact loading plate 72. Lapastora teaches (col. 7, lines 37-39) pressing the contacts 32 into the paste 36. Lapastora teaches (col. 7, lines 50-52) soldering using an infrared heating process. Lapastora then teaches (col. 7, lines 53-55) removal of excess flux.

As such, Lapastora clearly teaches a flux-based soldering process. Flux is not desirable in laser-soldering processes for reasons that should be obvious to the Examiner.

In contrast, Trabucco teaches a fluxless method of melting solder balls (see, e.g., Title, Abstract, Background, Summary, Detailed Description). It is a main intent of Trabucco to eliminate flux from the soldering process. Trabucco teaches (col. 1, lines 39-49) that disadvantages to using flux include residues left on soldered items and necessitation of extra cleaning steps. Trabucco teaches (col. 2, lines 27-30) that flux use generates additional waste products and that elimination of flux provides economy in manufacturing processes by elimination of cleaning steps and elimination of additional waste products. Trabucco further teaches (col. 4, lines 14-30) that

fluxless soldering provides simpler and faster manufacturing, without need for cleaning processes after soldering.

Trabucco thus teaches away from the methods of Lapastora, and, conversely, Lapastora teaches away from the teachings of Trabucco. Further, either is rendered unsuitable for its intended purpose if adapted to include the teachings of the other.

Kasulke et al. also teach a fluxless bonding process. The Examiner correctly states (p. 6) that "It is well worth noting that both Kasulke et al. and Trabacco [sic], each share the common concept of bonding in the absence of flux." It is noted that Kasulke et al. do teach that many advantages flow from the absence of flux, including environmental benefits and reduction of manufacturing time and costs. However, what is not stated in the Office Action is that it is the main intention of Kasulke et al. and Trabucco to eliminate flux from soldering operations, and that either reference is rendered unsuitable for its intended purpose if adapted to conform to the teachings of Lapastora.

Applicants note the requirements of MPEP §2145(X), entitled "ARGUING IMPROPER RATIONALES FOR COMBINING REFERENCES", section D(2), which states, inter alia, that "It is improper to combine references where the references teach away from their combinations."

Applicants note the requirements of MPEP §2141.02, entitled "Differences Between Prior Art and Claimed Invention", stating that "PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS". This MPEP

section further states that "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)".

Applicants also note the requirements of MPEP §2143.01, entitled "Suggestion or Motivation to Modify the References", stating that "THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE". This MPEP section further states that "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)."

Accordingly, it is improper, as a matter of law, to attempt to combine the teachings of Lapastora with those of Trabucco or those of Kasulke et al. in an effort to find the invention as recited in any of Applicant's claims.

Further, simply stating a conclusion that "it would have been obvious" to combine teachings from references or to modify or augment teachings from a reference does not meet the standards for a rejection under 35 U.S.C. §103(a) as set forth in The Manual of Patent Examination Procedure at §706.02(j) entitled "Contents of a 35 U.S.C. 103 Rejection." This MPEP section states that three basic criteria must be met in order to establish a prima facie case of obviousness. The first of these is that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the

reference or to combine reference teachings. The Office Action fails to show that the subject matter of any of claims 1-3, 6, 8, 11, 13, 20, 22, 23, 26, 27, 30, 31, 36, 37, 45 and 48-50 is suggested or motivated by the teachings of the reference.

The second requirement of MPEP §706.02(j) is that there must be a reasonable expectation of success. The third requirement is that the prior art reference (or references when combined) must teach or suggest all of the claim limitations. Since all of the cited references are silent with respect to laser bonding, as recited in claims 6, 8, 20, 22, 23, 26, 30, 36, 37, 49 and 50, or dipping a substrate into a volume of solder balls, as recited in claims 1, 3, 13, 23, 27, 31 and 48, combining their teachings cannot possibly provide the invention as recited in any of Applicant's claims. As a result, there cannot possibly be a reasonable expectation of success from combining the teachings of the references.

The rejection of claims 1-3, 6, 8, 11, 13, 20, 22, 23, 26, 27, 30, 31, 36, 37, 45 and 48-50 fails all three components of the test for an obviousness rejection as set forth in the MPEP.

Additionally, because the references provide no motivation to combine and in fact teach away from the proposed combination, and further are rendered unsuitable for their intended purposes in attempting to arrive at the subject matter of Applicant's claims, the Examiner appears to be employing an "obvious to try" standard of unpatentability via hindsight reconstruction using Applicant's own disclosure as a guide. Such is improper for numerous reasons, as is outlined in more detail below.

The Examiner is reminded that hindsight reconstruction is not an appropriate basis for a §103 rejection. (*See, e.g., Interconnect Planning Corp. v. Feil*, 227 USPQ 543, 551 (Fed. Cir. 1985); *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990) (explaining that hindsight reconstruction is an improper basis for rejection of a claim); see also MPEP §2145(X)(A).)

Additionally, Applicants note the criteria set forth in MPEP §2145(X)(B), entitled "Obvious To Try Rationale". This MPEP section states that "The admonition that 'obvious to try' is not the standard under Section 103 has been directed mainly at two kinds of error. In some cases, what would have been 'obvious to try' would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful. . . . In others, what was 'obvious to try' was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it." *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988)".

Further, no evidence has been provided as to why it would be obvious to combine the teachings of these references. Evidence of a suggestion to combine may flow from the prior art references themselves, from the knowledge of one skilled in the art, or from the nature of the problem to be solved. However, this range of sources does not diminish the requirement for

actual evidence. Further, the showing must be clear and particular. See *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999).

For at least these reasons, the unpatentability rejection of claims 1-3, 6, 8, 11, 13, 20, 22, 23, 26, 27, 30, 31, 36, 37, 45 and 48-50 should be withdrawn, and claims 1-3, 6, 8, 11, 13, 20, 22, 23, 26, 27, 30, 31, 36, 37, 45 and 48-50 should be allowed.

New claims 51-56 are supported by text appearing at p. 4, line 9 through p. 9, line 15 of the specification as originally filed. No new matter is added by new claims 51-56. New claims 51-56 distinguish over the art of record and are allowable.

Additionally, the Examiner's response to argument is deficient in multiple regards. Applicants note the requirements of MPEP §707.07, entitled "Completeness and Clarity of Examiner's Action". This MPEP section cites 37 CFR §1.104, entitled "Nature of examination" which in turn states, in subsection (b), entitled "Completeness of examiner's action" that "The examiner's action will be complete as to all matters, except that in appropriate circumstances, such as misjoinder of invention, fundamental defects in the application, and the like, the action of the examiner may be limited to such matters before further action is made."

This MPEP section further states, under a heading labeled "Examiner Note" that "The Examiner must, however, address any arguments presented by the applicant which are still relevant to any references being applied." The Office Action clearly fails to comport with these requirements as set forth in the MPEP.

Under the unpatentability rejections, the combinations fail to provide all of the features recited in any of Applicant's independent claims. The Examiner has ignored these features without providing any appropriate legal basis for doing so.

Another deficiency is the failure to respond to all arguments traversing the unpatentability rejections. The Examiner has continued to rely on specific references for specific teachings without rebutting Applicant's legal arguments. Merely repeating that "it would be obvious" to provide the features recited in the claims does not constitute a basis for rejection of the claims, particularly when the references fail to provide the features recited in the claims and the rejections fail to meet the standards for such rejections as set forth in the MPEP and as demonstrated by Applicant.

For at least these reasons, the Office Action fails to comport with appropriate standards for examination. The Examiner should either allow Applicant's claims or provide a meaningful basis for rejection and an appropriate response to Applicant's arguments with respect to any arguments that are maintained.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page(s) are captioned "**Version with markings to show changes made.**"

In view of the foregoing, allowance of claims 1-3, 6, 8, 11-13, 20, 22, 23, 26, 27, 30, 31, 36, 37, 45 and 48-53 is requested. The Examiner is requested to phone the undersigned in the event that the next Office Action is one other than a Notice of Allowance. The undersigned is available for

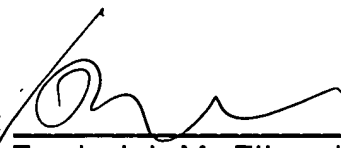
telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: _____

Mar. 26, 2002

By: _____


Frederick M. Fliegel, Ph.D.
Reg. No. 36,138

Version with markings to show changes made

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No. 09/148,723
Filing Date September 3, 1998
Inventor Warren M. Farnworth et al.
Assignee Micron Technology, Inc.
Group Art Unit 3729
Examiner D. Tugbang
Attorney's Docket No. MI22-981
Title: Methods of Bonding Solder Balls to Bond Pads on a Substrate



37 CFR §1.121(b)(1)(iii) AND 37 CFR §1.121(c)(1)(ii)
FILING REQUIREMENTS TO ACCOMPANY RESPONSE TO DECEMBER
26, 2001 FINAL OFFICE ACTION; RESPONSE TO ACCOMPANY RCE
FILING

Deletions are bracketed, additions are underlined.

In the Claims

Claims 51-56 have been added.

END OF DOCUMENT